

APPROVAL FOR SURFACE MINING AY 2 6 2004 (Form SM-6) Geology and Earth 1

	Type or print in ink.)	(Include all and associa: Total area Maximum H- Maximum relative to	acreage to be ted activities disturbed w vertical dep O fe depth of exceptions sea le	e disturbed by during the lif ill be	mining topographi	e SM-8A.) s c grade is
MAILING ADDRESS Geology	and Earth	No atta	chments will	be accepted.	Legal description	of permit area:
	- Callij	1/4	1/4	Section	Township	Range
2097 TOWER RD		SW	S€	5	32 N	45 E, W.M.
POLSON, MT 5981	60					
Telephone (406) 883 - 413	3					
RANGELAND, RECR REVEGETATED ROW IS LANDS AND SOM SIMILAR TO THOSE Signature of company representative or individual TO BE COMPLETED BY THE SPPROPRIATE Please answer the following questions 'ye 1. Has the proposed surface mine been a 2. Is the proposed subsequent use of the When complete, return this form to the	THAT OCC applicant(s) Name and the Gle COUNTY OR MUNIC approved under local zonic all and after reclamation co	HE OF COMPA	2 FLA ATURA ny representa erge ise regulation the local land	ative (please Pon/ as? d-use plan/de	POCK THIS print) Date	FACES SITE
Name of planning director or administrative official WHITE Plain Z Signature Title (please print) Director Development of Land	^	Address Ponc 625 Po New	lare Bot port	illeC y \$ 50 , w A	ounty street 66 99156	
Telephone	Date				DNR Reclamation	Permit No.
YO, 447-4821	+1-9-7av-1	FOR DEPA	RTMENT U	ISE ONLY:	70-00	2977



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Geology and Earth PPLICATION FOR RECLAMATION PERMIT

The state of the s	1 now normit		isting permit transfer of permit	expansion
NOTE: Do not attempt to comp (SM8AINST.PDF). Do not attempt templates in MS Word.	olete this form u	 intil you have car	efully read the accompanying instruct ord Template unless you are familiar	tion document
1. NAME OF APPLICANT/PERMIT HO Montana Rock Products	DLDER(S)		12. Are all of these mines now in compliance w RCW 78.44, WAC 332-18, and conditions of the 13. Have you ever had a surface mine operating	e permits? yes no
2. MAILING ADDRESS 2097 Tower Road Polson, MT 59860			reclamation permit revoked? Have you ever had a reclamation security forfeit If you answered yes to either of the above, list the	yes 🛮 no ted? 📋 yes 🖾 no the permit number(s):
3. Telephone 406-883-4133 UBI No. 6. 02 269 4. NAME OF MINE Iron Mountain Quarry 5. Street address and milepost of surface			☐ metal ☐ other Deposit type: ☐ glacial ☐ river channel deposits ☒ talus ☐ bedro	☐ pit ☑ quarry ☑ rock or stone ☐ clay ☐ limestone ☐ silica ☐ river floodplain (alluvial) ock ☐ lode ☐ unknown
Mile Post 10 on the Bead Lake Road		·	other 15. Total Acreage and Depth of Permit Area: (Include all acreage to be disturbed by mining, sactivities during the life of the mine.) (See Form Total area disturbed will be 15 acres. Area to be disturbed in next 36 months will be 6	setbacks, buffers, and associated n SM-6.)
			1 101 2mp 1010 10 10 10 10 10 10 10 10 10 10 10 1	ographic grade is 20 feet relative to mean sea level Estimated number of years 20
6. Distance (miles) 7. Direction from NW	8. Nearest common Newport	munity	mine (estimated): 600,000	9. Estimated annual production: 30,000 ☐ tons, or ☑ cu yds
9. COUNTY Pend Oreille No attachments will be accepted. Legal D 1/4 1/4 Section SW SE 5	Description of permit Township 32N	area: Range 45E	☐ agricultural ☐ forestry ☑ Other High Desert Rangeland	
SW SE 3	3211		Reclaimed elevation of floor of mine: 2,920 fee Reclaimed elevation is shown on cross sections	
10. TOTAL ACREAGE OF PERMIT AF	REA APPLIED FOR		Subsequent land use is compatible with County or Municipal comprehensive plan?	⊠ yes □ no
(include all acreage to be disturbed by min activities during the life of the mine.)	ning, setbacks, buffer	rs, and associated	County or Municipality Approval for Surface Mining (Form SM-6) attached?	⊠ yes □ no
11. Do you or any person, partnership, or hold, or have you held, a surface mining or	perating or reclamat	ed with you now ion permit? ☐ yes ☑ no	SEPA Checklist required? If any answers are no, explain:	⊠ yes □ no
If you answered yes to the above, please l Permit Number	Active Operation? Yes No	Reclamation current/complete? Yes No	21. Application fee for a new reclamation pern	nit is herewith attached?

22. SECHINIAL RECLAMATION				1.00
Permit area has been divided into segments for mining and a mining schedule has been developed?	Ø	ves	П	no
If no, explain:	_		. —	
Permit area has been divided into segments for reclamation and a reclamation schedule has been developed?	\boxtimes	yes		no
If no, explain:		٠,		
		*		
		1 ,		
		111 111	. saylen oğum	
23) A SNEE BREPARATION		424	Wip?	
23A. Permit and Disturbed Area Boundaries	<u> </u>	47.7		
Boundary of the permit area has been marked on the ground with permanent boundary markers?	\bowtie	yes		no
Explain boundary markers: Corners of mining area will be numbered and pinned.				
23B. Saving Topsoil, Subsoil, and Overburden for Reclamation				
Thickness of topsoil is <u>0 to 0.1</u> feet				
Thickness of subsoil is <u>0 to 2</u> feet				
Depth to bedrock is <u>0 to 2</u> feet				
Total volume of topsoil is minimal cubic yards Total volume of subsoil is minimal cubic yards				
Volume of stored topsoil/subsoil is minimal cubic yards and will require 1.4 acres for storage.				
Storage areas are shown on maps and have been marked on the ground with permanent boundary markers?	\boxtimes	yes		no
Topsoil will be salvaged?	\boxtimes	yes		no
If no, explain:				
Topsoil and overburden will be moved to reclaim an adjacent depleted segment?	\boxtimes	ves	1 7	no
If no, explain:		,		
			ı	
Before materials are moved, vegetation will be cleared and drainage planned for soil storage areas?	Ш	yes		no
If no, explain: There is minimal vegetation in the mine area				
Soil storage areas will be stabilized with vegetation to prevent erosion if materials will be stored for more than				
one season?	\boxtimes	yes		no
If no, explain:				
23C. Setbacks and Screens				
Maximum height of the mine will be 350 feet from 3,270 feet (highest) to 2,920 feet (lowest) elevation relative to	o mea	n sea	level.	
The setback for this site will be 50 feet wide.	\boxtimes	ves	☐ no	······································
Is a permanent, undisturbed buffer planned for this site? If no, explain:	23	yes		,
11 no, expiani.				
	[[]			
Setbacks are shown on maps and have been marked on the ground principle to undary markers?	×	yes	<u></u> П	no
tt no, explain:				
MAY 7 3 2009				
Godesi end Fatti				

slopes are to be achieved?	acent property and how the final, stable	, (2)	
		⊠ yes	∐ no
If no, explain:			
23D. Buffers to Protect Streams and Flood Plains			
If yes, see "Additional Information Requirements for Flood Plain Mines.	" This document is included in the SM	8AINST.PL	F file.
A stream buffer of at least 200 feet has been marked on the ground with	permanent boundary markers?	yes	⊠ no
A buffer of at least 200 feet from the 100-year flood plain has been mark	ed on the ground with permanent		
boundary markers?		☐ yes	⊠∘no
If no, explain: A 100-foot buffer is planned from an ephemeral drain	age on the SW side of the mine area	•	
G COL 1: P to Complete I consumment on the Dont of Ecology	is attached?	☐ yes	⊠ no
Copy of Shoreline Permit from local government or the Dept of Ecology Hydraulic Project Approval from the Department of Fish and Wildlife is	attached?	ves	⊠ no
23E. Conservation Buffers	attacheu:	700	<u> </u>
Conservation buffers will be established for the following purpose(s): (C	heck all that apply)		· · · · · · · · · · · · · · · · · · ·
unstable slopes wildlife habitat water q	uality other		
unsubject stopes when a second		٠	
Describe the nature and configuration of the conservation buffer(s):			
•			
		1	
Conservation setbacks are shown on maps and have been marked on the	ground with permanent boundary	│ □ ves	⊠ no
markers?		L yes	<u>⊠</u> 110
23F. Ground Water High water table depth is NA feet relative to mean sea level, below	v original surface or Nunknown.		
High water table depth is <u>IVA</u> feet relative to ineal sea level, below	original surface, or a mane was		
Low water table depth is NA feet Trelative to mean sea level, below	v original surface, or unknown.		
50 / Walls 1850 05 p. 1850 <u>- 1</u>			
Annual fluctuation of water table is from NA feet on to fee	t on		
Direction of ground water flow: NA			
Are well logg attached?		□ ves	⊠ no
Are well logs attached?		yes ves	⊠ no ⊠ no
Is the aquifer perched?		yes yes	K*7
Is the aquifer perched? Is the shallowest aquifer: confined unconfined			K*2
Is the aquifer perched?			K*2
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet dry both	gh the talus slope with some drilling	yes	⊠ no
Is the aquifer perched? Is the shallowest aquifer: confined unconfined	gh the talus slope with some drilling	yes	⊠ no
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet dry both Describe mining method: Extraction Roads will be constructed throu	gh the talus slope with some drilling	yes	⊠ no
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet dry both Describe mining method: Extraction Roads will be constructed throu liberate in-place outcrop	gh the talus slope with some drilling	yes	⊠ no
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet dry both Describe mining method: Extraction Roads will be constructed throu liberate in-place outcrop The site is in a:		yes and blastin	⊠ no
Is the aquifer perched? Is the shallowest aquifer:	public water supply waters	and blastin	g to
Is the aquifer perched? Is the shallowest aquifer:	public water supply waters	and blastin	g to
Is the aquifer perched? Is the shallowest aquifer:	public water supply waters on area designated aquife	and blastin	g to
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet both Describe mining method: Extraction Roads will be constructed throu liberate in-place outcrop The site is in a: critical aquifer recharge area sole source aquifer wellhead protection area special protect: Ground water study attached? If yes, see "Additional Information Requirements for Hydrologically Sole."	public water supply waters on area designated aquife	and blastin	g to
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet dry both Describe mining method: Extraction Roads will be constructed throu liberate in-place outcrop The site is in a: critical aquifer recharge area sole source aquifer wellhead protection area special protection displayed attached? If yes, see "Additional Information Requirements for Hydrologically Sciencluded in the SM8AINST.PDF file.	public water supply waters on area designated aquife	and blastin	g to
Is the aquifer perched? Is the shallowest aquifer: confined unconfined The site will be mined: wet both Describe mining method: Extraction Roads will be constructed throu liberate in-place outcrop The site is in a: critical aquifer recharge area sole source aquifer wellhead protection area special protect: Ground water study attached? If yes, see "Additional Information Requirements for Hydrologically Sole."	public water supply waters on area designated aquife	and blastin	g to
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Is the aquifer perched? Is the shallowest aquifer:	public water supply waters on area designated aquife ensitive Areas." This document is	and blastin	g to area no
Is the aquifer perched? Is the shallowest aquifer:	public water supply waters on area designated aquife ensitive Areas." This document is	and blastin	g to area no
Is the aquifer perched? Is the shallowest aquifer:	public water supply waters on area designated aquife	and blastin	g to area no

24. MINING PRACTICES TO FACILITATE RECLAMATION	follow 1	100 m		
24A. Soil Replacement	· K 2			
Topsoil will be saved?	\boxtimes	yes	Ш	no
If no, explain:				
Up to 4 feet of topsoil and (or) subsoil will be restored?		yes	\boxtimes	no
If no, explain: Natural quarry area consists of rock outcropping and talus. Soil replacement will be				
restricted to vegetated islands				
Topsoil will be restored and seedbeds prepared as necessary to promote effective revegetation and to stabilize				•
slones and mine floor?		yes	\boxtimes	no
If "ves" give details, if "no", explain: There is minimal organic soil onsite. Native vegetation will be				
planted where possible as islands in talus. Other areas will be left as bare rock to blend with				
surrounding landscape.				
Subsoil will be replaced to an approximate depth of <u>NA</u> feet on the pit floor and a depth of feet on slopes.				
Topsoil will be replaced to an approximate depth of <u>NA</u> feet on the pit floor and a depth of feet on slopes.			E 2	
Topsoil will be distributed evenly over the site?		yes	\boxtimes	no
If no, explain: Site is outcropping of rock with talus and sparse vegetation. The site will be reclaimed				
with vegetated islands.				
If topsoil is in short supply, it will be strategically placed in depressions and low areas in adequate thickness to				
conserve moisture and promote revegetation?	\boxtimes	yes		no
If no, explain:				
Topsoil will be moved when conditions are not overly wet or dry?	X	ves	П	no
If no, explain:				
in no, expansi				
	\Box			
Topsoil will be imported? If yes, describe source. If no, explain: There is little existing topsoil at the site. Limited organic topsoil		yes	Ш	no
will be imported to create vegetated islands.				
Synthetic topsoil made from compost, biosolids, or other amendments will be used and (or) made on site to				
supplement existing topsoil?		yes	\boxtimes	no
If yes, explain:				
			*	
Materials such as till, loess, and (or) silt are available on site that could be used to supplement topsoil for				
reclamation.		yes	\boxtimes	no
If yes, explain:				
Silt from settling ponds or a filter press will be used for reclamation?		yes	\boxtimes	no
If yes, explain: RECEIVED		-		
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CHECKLIST OF RECLAMATION STANDARDS Settling pond clay slurries will be pumped or hauled to other segments for reclamation? yes ⊠ no If yes, explain: Topsoil will be replaced with equipment that will minimize compaction, or it will be plowed, disked, or ripped ⊠ yes □ no following placement? If no, explain: Refer to narative Topsoil will be immediately stabilized with grasses and legumes to prevent loss by erosion, slumping, or no crusting? If no, explain: Refer to narative Topsoil stockpile areas are shown on maps and will be marked on the ground with permanent boundary ves ⊠ no markers to protect from loss? If no, explain: Topsoil is too scarce to stockpile Segmental topsoil removal and replacement is shown on maps? yes ⊠ no If no, explain: There is minimal topsoil to remove and stockpile. Refer to narative for topsoil replacement plan ⊠ no yes Topsoil salvage and replacement plan included? If no, explain: This is a semi-arid site with minimal organic soil to salvage 24B. Removal of Vegetation ⊠∍no Vegetation will be removed sequentially from areas to be mined to prevent unnecessary erosion? yes yes √ If no, explain: There is little vegetation in the mine area Small trees and other transplantable vegetation will be salvaged for use in revegetating other segments? 🛛 no If yes, give details. If no, explain: Sparse vegetation. Wood and other organic debris will be: ⊠ burned buried used to synthesize topsoil or mulch removed from site chipped recycled other (explain) 🛛 no Solid waste disposal, burning, and land use permits are attached? Some coarse wood (logs, stumps) and other large debris will be salvaged for fish and wildlife habitats? If yes, give details. If no, explain: There is no such organic debris within the mine area

24C. Erosion control for Reclamation

Pit floor will slope at gentle angles toward highwall, sediment retention pond, or proper drainage?

If yes, give details. If no, explain: The reclaimed quarry floor area will be sloped toward the highwall to

minimize run off.

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⊠ yes

CHECKLIST OF RECLAMATION STANDARDS Revegetation, sheeting, and (or) matting will be used to protect areas susceptible to erosion? ves ⊠ no If yes, give details. If no, explain: The reclaimed site will still consist of a talus slope, which should have limited potential for erosion. Water control systems used for erosion control during segmental reclamation will: no Divert clean water around pit? yes no Trap sediment-laden runoff before it enters a stream? Result in essentially natural conditions of volume, velocity, and turbidity? yes no Handle a 25-year, 24-hour peak event? yes no no (Have you attached calculation?) Be removed or reclaimed? If any answers are no, explain: This is a high desert talus slope with limited runoff potential. Therefore a hydrologic analysis was considered unnecessary. Will any water control systems be removed upon final reclamation? ⊠ no If yes, explain: Water control measure will be established to prevent erosion of setbacks and neighboring properties? ⊠ yes no If yes, give details. If no, explain: An interceptor trench/deflection swale will be constructed along the southeastern perimeter of the mine area to divert runoff away from No Name Lake. Storm-water conveyance ditches and channels will be lined with vegetation or riprap? ⊠ yes l no If yes, give details. If no, explain: The interceptor trench will be appropriately armored with rock. Natural and other drainage channels will be kept free of equipment, wastes, stockpiles, and overburden? ⊠ ves no If no, explain: 25. RECLAMATION TOPOGRAPHY 25A. Final Slopes 🛛 no Final slopes will be created using the cut-and-fill method? ☐ yes Explain procedure to be used: Final slopes will be created by backfilling the excavated area with waste rock left over from processing flagstone and other rock products Slopes will be created by mining to the final slope using the cut method? ⊠ no ____ yes Explain procedure to be used: Excavated areas will be backfilled with waste talus rock left over from processing flagstone ⊠ yes no Slopes will vary in steepness? If no, explain:

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⊠ yes

no

f no, explain:

Slopes will have a sinuous appearance in both profile and plan view?

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Large rectilinear (that is, right angle, or straight, planar) areas will be eliminated?		M 3	yes	י נו	no
If no, explain: Geole	ogy and Earth				
Where reasonable, tracks of the final equipment pass will be preserved and oriented to trap me	oisture, soil, and				
seeds, and to inhibit erosion?		\boxtimes	yes		no
If no, explain:					
11 110, DAPIMIN.					
25B. Slope Requirements for Pits and Overburden/Waste Rock Dumps (non-saleable pr	roducts)				
If the mine is a quarry or in hard rock, skip to Quarry section(25C).					
Slopes will vary between 2 and 3 feet horizontal to 1 foot vertical or flatter, except in limited	areas where	\Box	yes	П	no
steeper slopes are necessary to create sinuous topography and control drainage?		ш.	yes	ш	ш
If no, explain:					
For pits, slopes will not exceed 2 feet horizontal to 1 foot vertical except as necessary to blend	d with adjacent	П	yes		no
	2 11 101 00 000	_	•		
natural slopes? Give details:					
Give details.					
Slope stability analysis required?		Ш	yes	Ш	no
If ves. see "Additional Information Requirements for Mines with Potentially Unstable or St	teep Slopes." This	•			
document is included in the SM8AINST.PDF file.					
Slope stability analysis provided by					
25C. Slope Requirements for Quarries and Hardrock Metal Mines					
If mine is a pit in unconsolidated materials covered by Section 25B, go to Section 25D					
Check the appropriate box(es) Slopes will not exceed 2 feet horizontal to 1 foot vertical.					
Slangs steeper than 1 foot horizontal to 1 foot vertical are an acceptable subsequent land	use as confirmed on l	Form	SM-6	5.	
Hazardous slopes or cliffs are indigenous to the immediate area and already present a pot	ential threat to humar	n life	. Pho	to an	d
I want attached to document presence of cliffs					
Geologic or topographic characteristics of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes being reclaimed at a figure of the site preclude slopes at a site of the site preclude slopes at a site of the	atter angle and are an	acce	eptable	e ,	
subsequent land use as confirmed on Form SM-6.					D O
Slope stability analysis required?	to Clamas " This	Ш	yes		no
If yes, see "Additional Information Requirements for Mines with Potentially Unstable or S	teep Stopes." Inis				
document is included in the SM8AINST.PDF file.					*
Slope stability analysis provided by		M	yes		no
Measures will be taken to limit access to the top and bottom of hazardous slopes? Describe measures, or if no, explain: Cable gates and warning signs will be installed.			<i>J</i> • • •		
Describe measures, or if no, explain: Cable gates and warning signs will be instance.					
Selective blasting will be used to remove benches and walls and to create chutes, buttresses,	spurs, scree slopes,				
and rough cliff faces that annear natural?			yes	\boxtimes	no
Describe procedures, or if no, explain: Benches will be left to facilitate backfilling with wa	aste rock and to				
reduce downslope movement of talus rock. Lower benches will be backfilled. Over tim	e upper benches				
will fill through downslope movement of talus.					
111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	than 2 feet				
Reclamation blasting will be used to reduce the entire highwall to a scree or rubble slope less	, man 2 loot		yes		no
horizontal to 1 foot vertical?	,		yes	\boxtimes	no
Blasting plan is attached? If no, explain: Blasting will take place on an as-needed basis to provide access to select t	alus or to excavate		-		
areas of favorable bedrock.					
MICHO OF THIOTHER DESCRIPTION					
			NOC.		no
Access to benches will be maintained for reclamation blasting?			yes	Ш	no
If no, explain:					
On the Control of the	nirds?		yes	П	no
Small portions of benches will be left to provide habitat for raptors and other cliff-dwelling b	711 do:	لككا	J C 3	<u></u>	***

25D. Backfilling		-		
Slopes will require backfilling?	\boxtimes	yes	Ш	no
Depth of backfilling is Up to about 50 feet thick feet.		***	\square	20
Slope stability compaction analysis required?		yes		ш
Compaction analysis provided by	П	yes	\boxtimes	no
Backfilling plan and (or) permits are attached? If no, explain: The backfilled material will consist of waste rock left over from splitting flagstone and will		•		
pe placed as a talus slope at or the natural angle of repose				
Flatter than			•	
		<u> </u>		
Backfilling will be done with overburden material after topsoil has been separated?	Ш	yes	\boxtimes	no
If no, describe composition and source of backfill material: Backfill will consist of broken rock left over				
rom splitting flagstone				
Explain method of placement of fill: Broken rock fill will be backhauled and dumped with a truck and				
soped with a dozer or excavator to equal to or less than the natural angle of repose				
sloped with a dozer of excavator to equal to of less than the natural angle of expansion				
Locations of stockpiles are shown on maps and will be marked on the ground with permanent boundary				
markers?	一岗	yes	_=	no
Will backfill be imported?	Ш	yes	\bowtie	no
If yes, give volumes needed to meet reclamation plan:				
1 1 1 (1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		yes	П	no
Areas to be backfilled are shown on maps?		J		
If no, explain:		*		
		· .	_	
All grading/backfilling will be done with clean, inert, non-organic solids?	\boxtimes	yes	Ш	no
If yes, give details. If no, explain: Backfill material will consist of broken rock left over from splitting				
flagstone				
Backfilled slopes will be compacted?		yes	\boxtimes	no
If yes, give details. If no, explain: The broken rock backfill is uncompactable and will be left as talus				
1. yes, gave determine to 1. yes				
1.00		ves	Ø	no
Will you be backfilling into water?	Ħ	yes	Ĭ	no
If yes, is slope stability analysis attached? If yes, describe method:	ب		لبي	
If yes, describe method.				
				
25E. Mine Floors		****	$\overline{\Box}$	no
Flat areas will be formed into gently rolling mounds?	Ш	yes		110
If yes, give details. If no, Explain: Most of the mine floor will be backfilled with broken waste rock.				
Mine floor will be gently graded into sinuous drainage channels to preclude sheetwash erosion during intense				
precipitation?	\boxtimes	yes	Ш	no
If yes, give details. If no, explain: The mine floor will be sloped to direct runoff toward the highwall.				
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CHECKLIST OF RECLAMATION STANDARDS Mine floor and other compacted areas will be bulldozed, plowed, ripped, or blasted to foster revegetation? 🛛 no yes If yes, give details. If no, explain: The mine floor will be backfilled with broken waste rock. 25F. Lakes, Ponds, and Wetlands Is water currently present in the area or will the mining penetrate the water table? 🛛 no | ves If no, go to Section 25G. Reclaimed areas below the permanent low water table in soil, sand, gravel, and other unconsolidated material □ no yes will have a slope no steeper than 1.5 feet horizontal to 1 foot vertical? If yes, give details. If no, explain: If not already present, soils, silts, and clay-bearing material will be placed below water level to enhance ves no revegetation? If yes, give details. If no, explain: Some parts of pond and lake banks will be shaped so that a person can escape from the water? ☐ yes no If yes, give details. If no, explain: Armored spillways or other measures to prevent undesirable overflow or seepage will be provided to stabilize □ no yes yes bodies of water and adjacent slopes? If yes, give details. If no, explain: Wildlife habitat will be developed, incorporating such measures as: no Sinuous and irregular shorelines? no ves Varied water depths? yes no Shallow areas less than 18 inches deep? Islands and peninsulas? Give details: Ponds or basins will: no Be located in stable areas? no yes Have sufficient volume for expected runoff? yes no Have an emergency overflow spillway? Spillways and outfalls will be protected (for example, rock armor) to prevent failure and erosion? no If any answers are no, explain:

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If yes, give details. If no, explain:

f no, explain:

Proper measures will be taken to prevent seepage from water impoundments that could cause flooding outside

Written approval from other agencies with jurisdiction to regulate impoundment of water is attached?

the permitted area or adversely affect the stability of impoundment dams or adjacent slopes?

☐ yes

____ yes

no no

no

25G. FINAL DRAINAGE CONFIGURATION		<u>'</u>		
Drainage will be capable of carrying the peak flow of the 25-year, 24-hour precipitation event (Data are	Geolog	jy a		
available at DNR Region offices)	ĭ ye:	S [no
c 11tions ottoched?	☐ ye	s	X ı	no
If we give details. If no, explain: The mine area consists of a talus slope without drainages and should be				
more than capable of dissipating the 25-year 24-hour event.				
1 1 1 in decement to control surface water erosion and siltation?	☐ ye	S	Ø	no
Drainages will be constructed on each reclaimed segment to control surface water, erosion, and siltation?	☐ ye		\equiv	no
Clean runoff is directed to a safe outlet? If either yes, give details. If no, explain: An interceptor trench/deflection swale system will remain				
following reclamation to divert rock debris and runoff away from No Name Lake.				
10110Wing reciamation to divert fock debits and runon away from the reason and runon away from the reciamation to divert fock debits and runon away from the reciamation to divert fock debits and runon away from the runon away				
	1		_	
Are these shown on maps?	⊠ ye		Щ	no
The grade of ditches and channels will be constructed to limit erosion and siltation?	⊠ ye	S	Ш	no
If yes, give details. If no, explain: The ditch area is either outcrop or talus with limited potential for				
erosion.				
			M	
Natural-appearing drainage channels will be established upon reclamation?	☐ ye	:S	\boxtimes	no
If yes, give details. If no, explain: There are no natural drainage channels in the mine area and none win				
be constructed during reclamation.				
TOP DEVICE TION				. liv
26. SITE CLEANUP AND PREPARATION FOR REVEGETATION	<u> </u>			
26A. Dealing with Hazardous Materials	□ ye		冈	no
Hazardous materials are present at the mine site?	1 - 3		<u> KN</u>	
If no, go to Section 26B	☐ ye	es	П	no
The final ground surface drains away from any hazardous natural materials?	,,,,,,		_	
If yes, give details. If no, explain:				
			i	
Plan for handling hazardous mineral wastes indigenous to the site is attached?	□ y	es		no
If no, written approval from all appropriate solid waste regulatory agencies attached?		es_		no
26D Domoval of Debris		· .		
All debris (garbage, 'bone piles', treated wood, old mining equipment, etc.) will be removed from the mine site?	? 💹 y		Ц	no
All chads scale houses, and other structures will be removed from the site?	y,	es	Ш	no
If either answer is yes, give details. If no, explain: Garbage, tramp iron, and old parts will be removed to a				
proper disposal site.				
27. REVEGETATION	_т			3*.
The mine site is in: eastern Washington				
western Washington	Ì			
The mine site is: wet dry				
the start is 15 20 inches nor year				
The average precipitation is 15-20 inches per year. Revegetation will start during the first proper growing season (fall for grasses and legumes, fall or late winter				
Revegetation will start during the first proper growing season (fail for grasses and regumes, fail or late winter	⊠ y	'es		no
for trees and shrubs) following restoration of slopes? If yes, give details. If no, explain: The site is highly drained consisting of bedrock and talus with little				
or segment over existing conditions. If no, explain: The site is highly dramed consisting of sections determined the section will be an improvement over existing conditions.				
vegetation. I hus any successiul re-vegetation will be all improvement over existing conditions.				
Test plots will be used to determine optimum vegetation plans?	□ □ y	es		no
Application for Reclamation Permit (Form SM-8A) Revised 12/01 Page 10 of 13 Reclamation Permit/App No. 70-	012977			

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Application for Reclamation Permit (Form SM-8A) Revised 12/01

·		OF RECLAMATIC	JI GIII (Z. 12. C. C.		
The site will not be reveg	etated because:	ling 30 inches annually and e	rosion will not be a problem (req	uires approva	l of
1	rea with a faillian exceed	img 50 menes amaan, and			
DNR).	on plots and areas will be	used to show that active rev	egetation is not necessary.		
Demonstration	is inappropriate for the	approved subsequent use of t	his surface mine.		
☐ Kevegetation	1 15 mappiopilate	-			
Explain:					
Explain.					
	·				
				☐ yes	⊠ no
Documentation i					
27A. Recommended Pic	oneer Species	lented at your mine site.			
In the Sections below, ch	eck the species that will t	pe planted at your mine site:			
* indicates nitro	gen-fixing species				
Western Washington D	ry Areas Lupine*	Clover*	orchard grass		
alfalfa*	perennial rye	colonial bent grass	ponderosa pine		
cereal rye creeping red fescue	red alder*	Douglas fir	shore pine		
ground cover	shrubs	other			
L ground cover					
Western Washington W	et Areas				
birdsfoot trefoil	sedges	cedar	tubers		
cottonwood	wetland grasses	creeping red fescue	☐ willow		
red alder*	other other				
Eastern Washington Di	y Areas	□ alfalfa*	juniper		
alder*	grasses	clover	lupine*		
black locust	lodgepole pine ponderosa pine	shrubs	☐ deep-rooted ground cover		
deciduous trees	other	smaos			
diverse evergreens					
Eastern Washington W	et Areas				
alder*	cottonwood	poplar poplar	sedges		
serviceberry	tubers	☐ willow			
other					
			1 11 / Fares lamme or	r forh mivture	»)·
Give planting details (ste	ms/acres of trees and shr	ubs, see Forest Practices mai	nual; lbs/acre of grass, legume, or	1010 IIIAture	,,,
Refer to narrative					
Describe weed control p	lan'				
Refer to narrative					
Refer to narrative					
27B. Planting Techniq	ues		<u> </u>		
Revegetation at this site	will require:			☐ yes	🛛 no
Ripping and till	ing?			yes	🔯 no
	te permeability?			🔯 yes	no 🔲
Mulching?			RECEIVED	yes 🔲	🛛 no
Irrigation? Fertilization?			W. M. Branc Santo States S. W. Birter Bail	🔀 yes	☐ no
Importation of a	clay- or humus-bearing so	oils?	MAY 2 6 2004	⊠ yes	∐ no
Other soil cond	itioners or amendments?		mmi = v ewi	⊠ yes	∐ no
Give details: R	efer to narrative		Geology and Earth		
3,			mental anna manas		
				<u>-</u>	

CHECKLIST OF RECLAMATION STANDARDS Trees and shrubs will be planted in topsoil or in subsoil amended with generous amounts of organic matter? ⊠ yes l no If yes, give details. If no, explain: Refer to narrative. no yes Mulch will be piled around the base of trees and shrubs? yes no High quality stock will be used? no yes Trees and shrubs will be planted while they are dormant? Stock will be properly handled, kept cool and moist, and planted as soon as possible? no yes no Seeds will be covered with topsoil or mulch no deeper than one-half inch? If any answers are no, explain: 28 FINAL CHECKERT no All required maps are attached (See Instructions for detailed requirements)? yes All required cross-sections are attached (See Instructions for detailed requirements)? yes no no yes Geologic map attached (if required)? All documents submitted have the date, the name and address of the permit holder, and the application number no on every page of the material? no yes The plan contains predominantly relevant information? Have you completed the SM-6 and has it been signed by the local jurisdiction? yes no no yes Have you provided the SEPA checklist? Have you provided a copy of the SEPA Determination (DNS, MDNS, or DS)? no yes no yes Have you attached photographs? yes no Are additional supplemental studies included? If yes, check the appropriate box(es) below: Slope stability ☐ Geohydrologic Backfill Archeological Vegetation Conservational Flood plain Topsoil Other

☐ Water Discharge Permit

Other

NPDS or General Discharge Permit

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Solid Waste Permit

Hydraulic Project Approval

⊠ no

yes

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Other permits required?

Air Quality Permit

Shoreline permit

If yes, check the appropriate box(es) below:

Special or Conditional Use Permit

When signed by the applicant and approved by the Department of Natural Resources, this document and the issociated maps, cross sections, reclamation narrative, and other attachments will be the approved reclamation plan for this permit that the permit holder must follow. Significant variations from the approved reclamation plan may require that a new plan be submitted to the Department for approval.

	is surface mine and shall be responsible to	r compliance with Chapter
The applicant shall be considered as the permit holder for th 78.44 RCW, Chapter 332-18 WAC, the approved reclamation	on plan and attachments, and the condition	s of the permit if issued by the
78.44 RCW, Chapter 332-18 WAC, the approved reciamation	on plan and attuormone, and the	<u> </u>
Department of Natural Resources.	Name and Title of Company Representa	tive Date signed
I hereby agree to comply with this plan.		
Signature of applicant or company representative	(Please print)	H annu
11/1/1/	Glen T. Vergeront, Owner	7 -7-21/114
Wat I la comment		
My June New Power to Only	OWERSHIP OF RIGHTS TO RI	MOVE MINERALS BY
ORFACE OWNERSHIP (or New Permits Only)	essory STIREACE MINING (For New)	Permits Only)
Give names, addresses, and agnatures of all individuals with posses	Give names, addresses, and signature	s of all individuals with rights.
interest in land. (attach signed copies of this page if more than one)	(attach signed copies of this page if r	nore than one)
I verify that the applicant has my permission to mine from my lane	d. I verify that the applicant has my per	mission to mine this land.
Signature of landowner(s) Daye Signature of landowner(s)		Date Signed
10/1		(1)/30
Navel Dong 3/1/1	A well fall	2 5/1/08
I hereby verify that I have seen and approved this plan.	I hereby verify that I have seen and a	approved this plan. Date Signed
Signature of landowner(s) Date Sig	ned Signature of rights owner(s)	Date Signed
10/ 1 (da 1/1)	LAN Solus	m/m/ck
1 1/1/	1) I want	5////07
1 - / //// - // 1 / / / / / / / / / / /		
FOR DEPARTMENT ALL SU ONLY		
FOR DEPARTMENTAL USE ONLY Pate accepted by:	Title:	Reclamation Permit No.
FOR DEPARTMENTAL USE ONLY Date accepted Accepted by:	Title:	Reclamation Permit No.
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Plan Narrative for the Iron Mountain Quarry

On behalf of Montana Rock Products, SubTerra, Inc. (SubTerra) has prepared this new reclamation plan for the Washington State Department of Natural Resources (DNR). This reclamation plan, including the narrative, DNR forms, maps and figures, is intended to satisfy the DNR requirements as stated in Chapter 78.44 Revised Code of Washington (RCW). DNR SM-8A and SM-6 forms with original signatures are included.

Permit Area

The Iron Mountain Quarry is located 10 miles northwest of the Town of Newport, in Pend Oreille County, Washington. The site and permit area comprises 40 acres of private land consisting of the southwest corner of the southeast corner of Section 5, Township 32 North, Range 45 East (Figures 1 and 2).

Existing Operation

quarried argillite The project site contains an existing mining operation that has for a number of years for use as flagstone and landscape rock. Typically the talus blocks are split onsite and stacked on pallets for distribution to commercial rock yards for retail sale. Generally for every ton of flagstone that is manufactured, two tons of waste rock is produced. The waste rock consists of either broken flagstone rock or rock that was not sufficiently platy to produce flagstone. Over the years the waste rock has been side-cast down-slope onto the area labeled as Talus-Salvage area on Figure 3.

The mining operation generally consists of road building through the talus slope in order to harvest the rock, as well as some light drilling and blasting of outcrops to access talus areas and to produce additional rock from outcrop. The rock is processed on site using mobile power equipment and hand labor. Access to the site is via the Bead Lake road, which is owned and maintained by the U.S. Forest Service (USDA). The access road runs directly through the site and provides access to forestlands to the north of the operation.

Proposed Expansion

Under the proposed expansion additional talus and outcrop will be mined and processed on site over a 20-year period. Under peak production up to 20,000 cubic yards per year of flagstone could be manufactured at the site, which means that up to 40,000 cubic yards of waste rock will be discarded per year. As part of the proposed expansion, talus that was previously side cast down-slope will be salvaged and made into flagstone. This will involve constructing and reclaiming a mine road down-slope of the access road as shown on Figure 4. Once salvage operations have been concluded this area will continue to be used for further side-casting of waste rock until a 2H:1V slope has been achieved or about 80,000 cubic yards of material has been added to this area. To avoid creating unstable slopes, once the final slope gradient has been achieved side-casting will be discontinued and waste rock will be backhauled to the primary quarry area located upslope of the access road.

In the primary quarry area up to 600,000 cubic yards of talus and outcrop will be mined over a 20-year period from the dashed area shown on Figures 3-6. From this quantity approximately 200,000 yards will leave the site as manufactured flagstone with 400,000 cubic yards remaining as waste rock. Of this waste rock, 80,000 yards will be side-cast onto the talus salvage area and 320,000 yards will be backhauled to the mine area to re-slope and reclaim the quarry. Figure 4 shows a reclamation sequence map, Figure 5 displays the extent of the full excavation, and Figure 6 shows the final reclaimed topography. Cross sections through the proposed expansion are displayed on Figure 7.

Throughout the life of the project the access road will be maintained through the site and stabilization measures such as a catchments ditch will be constructed along the base of the mine area to keep talus from raveling onto the roadway. During mining operations overburden and back-hauled waste rock will be stored along the eastern perimeter of the mine area with an interceptor trench/deflection swale constructed on the down-slope side to prevent runoff and sediment from reaching No Name Lake. During reclamation the stored overburden and waste rock will be moved back to the mine area and used to re-contour the excavated slopes to a stable configuration at a slope gradient below the natural angle of repose (Figure 7). The interceptor trench will be left following reclamation so that any surface water runoff will continue to be directed away from No Name Lake.

Mine Phasing and Soil Budget

The total disturbed area for the life of the project is 15 acres and has been divided into two reclamation segments consisting of the Talus Salvage area and Mine Excavation area. Where possible, any organic soil, and fine-grained overburden that could hold water will be stored separately in the upper portions of the waste rock/overburden storage area. During reclamation these materials along with imported organic soil will be used to create local small islands of vegetation along the otherwise barren reclaimed slopes.

Talus Salvage Area: This first phase of the proposed expansion will consist only of removing salvageable talus that had previously side cast, followed by side casting up to 80,000 additional yards of waste rock that will be derived entirely from the mine excavation area. Once stable slopes have been achieved about 400 cubic yards of imported organic soil will be placed as islands randomly across the Talus Salvage area for replanting with high desert vegetation.

Mine Excavation Area: This area consists mostly of rock talus and outcrop. Some overburden will be generated during mining operations however nearly all of the material that will be used for reclamation will consist of waste rock generated by the production of flagstone. Approximately 400,000 cubic yards of waste rock will be generated, with 80,000 yards side-cast over the Talus Salvage area and the remaining 320,000 cubic yards used to slope the mine area (Refer to Soil Budget, Table 1). Approximately 500 cubic yards of organic soil will be imported to create islands of vegetation across the reclaimed slopes.

Final Drainage

The only engineered drainage feature proposed for this site will be an interceptor trench/ deflection swale to direct runoff away from No Name Lake. We anticipate that this feature will remain in place throughout the life of the project. No other changes to the existing drainage at the site are anticipated.

Revegetation

There is little existing vegetation and sparse organic soil at the site, thus re-vegetating the project area will be challenging. Based on site photographs the only way to get vegetation to take hold on a high desert talus slope is to provide areas with fine-grained soil to hold moisture along with ample organic matter added to generate growth. Approximately 4% of the project area will be reclaimed as vegetated islands with the size and distribution of the islands determined in the field at the time of reclamation. In general areas with concave topography or other features conducive for collecting runoff will be chosen or created for vegetation areas. The vegetation planted will consist of manually planting 2-year old bareroot Ponderosa Pine,

purchased from a nursery and planted while dormant in the early spring. The islands will also be seeded with a deep-rooted grass/legume ground cover at 20 pounds per acre to promote soil development. Fertilizer will be broadcasted at a rate of 200 lbs./acre in these areas on an as needed basis. Table 2 identifies vegetation to be installed to establish flora that is consistent with the underlying soil, latitude and elevation.

TABLE 2
High Desert Revegetation Specifications

Species Common Name	Scientific Name	Planting Method	Planting Density	Planting Season
Ponderosa Pine	Pinus ponderosa	Bareroot	25 per acre	Early Spring
Idaho Fescue	Festuca idahoensis	Broadcast	20 lbs/acre	Fall/Spring
Bluebunch Wheatgrass	Agropyron spicatum	Broadcast	20 lbs/acre	Fall/Spring
Pinegrass	Calamagrostis rubescens	Broadcast	20 lbs/acre	Fall/Spring
Prairie junegrass	Keoleria macrantha	Broadcast	20 lbs/acre	Fall/Spring

Subsequent Land Use

The designated subsequent land use for this site is high desert rangeland. This is consistent with surrounding lands, which are presently un-zoned and well away from any local or regional land-use plans or designations.



SOIL BUDGET FOR IRON MOUNTAIN SURFACE MINE

			ESTIMATED TOPSOU	TOPSOIL VOLUN	L VOLUME (In situ yd3)	ESTIMATED C	ESTIMATED OVERBURDEN VOLUME (In situ yd3)	ME (In situ yd3)
Mining	Reclamation	ation		Needed For	Surplus	•	Needed For	Surplus
Phase	Segment	Acres	Available 1	Reclamation ²	Topsoil	Available ³	Reclamation 4	Overburden
Talus Salvage Area	,	7		400	(400)	1	80,000	(80,000)
Mine Area	2	∞		200	(200)	400,000	320,000	80,000
					•	•	1	
					l	ı	•	•
					1	•	1	1
					ı	1	1	•
	Totals	15	'	006	(006)	400,000	400,000	1

Assumptions:

Mining Depth: Maximum depth NA feet from surface.

Overburden Depth: Varies between NA feet

Slopes: 2H:1V or less.

Topsoil Placement Depth: Approximately NA feet Topsoil Salvage Depth: Average NA feet.

Surplus Topsoil & Overburden: Combined surplus of (0) cubic yards.

Calculations Notes:

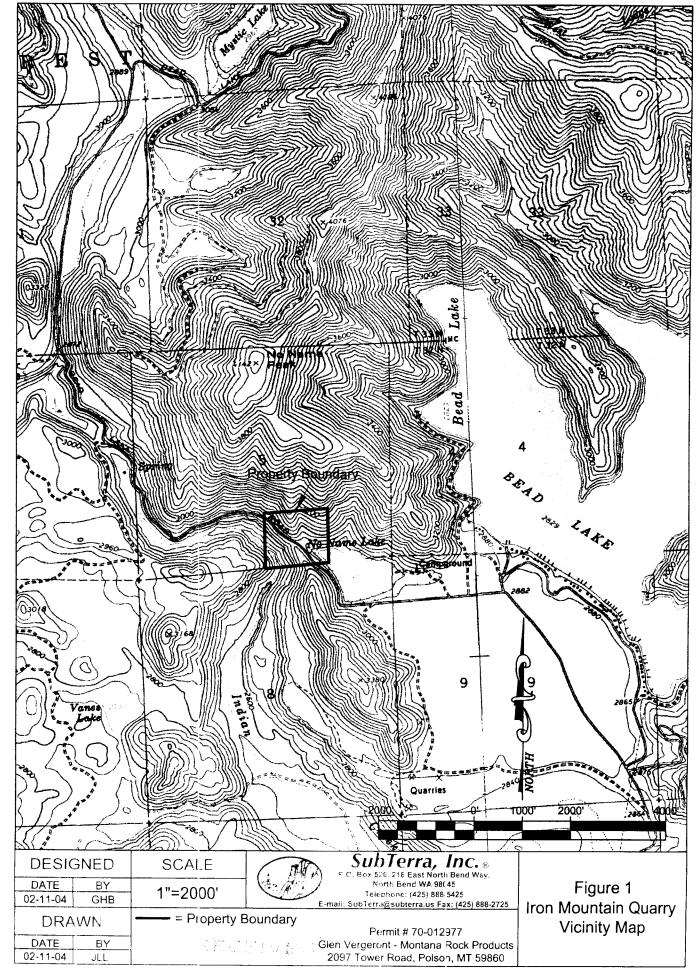
Notes:

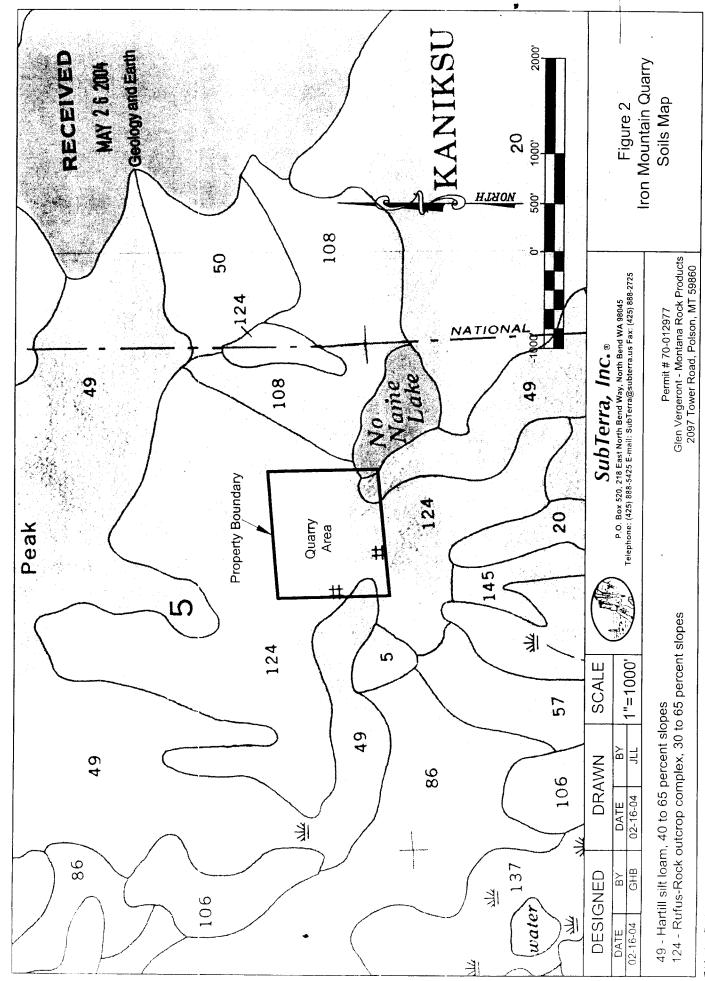
Overburden and cut/fill volumes were calculated using AutoCAD Land Development with Topography Prepared by the U.S. Geological Survey

- Topsoil Available Volumes Calculation is based on client provided photographs showing baren high desert talus slopes and outcrops.
 - Topsoil Needed Volumes Assumes vegetated islands will total about 1/4 acres per segment with a 1 foot thickness of organic soil
- ³ Overburden Available Volume Based on U.S. Geological Survey topography and waste rock generated by operation
- 4 Overburden Needed for Reclamation All waste rock generated by flagstone processing is counted as overburden

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